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ACTOR	
name	gender
fred	male
ginger	female
bing	male

MOVIE	
name	genre
m1	drama
m2	comedy

ROLE			
role	movie	actor	role-type
r1	m1	fred	hero
r2	m1	ginger	heroine
r3	m1	bing	villain
r4	m2	bing	hero
r5	m2	ginger	love-interest

Figure 1:

The diagram is a causal graph with three main sections: **Strain**, **Patient**, and **Contact**.

- Strain** (top): Contains nodes *# infected* and *infectivity*. *# infected* points to *infectivity*.
- Patient** (bottom-left): Contains nodes *ethnic*, *homeless*, *pob*, *agead*, *hivres*, *xray*, *smrpos*, *disease.site*, *gender*, *% infected*, *# contacts*, *transmitted*, *closecont*, *contype*, and *hh100hh*.
 - ethnic* points to *homeless*, *pob*, and *hivres*.
 - homeless* points to *pob*.
 - agead* points to *hivres*.
 - hivres* points to *smrpos*, *disease.site*, and *% infected*.
 - xray* points to *disease.site*.
 - smrpos* points to *disease.site*.
 - disease.site* points to *gender*.
 - % infected* points to *# contacts*.
 - transmitted* points to *closecont*.
 - closecont* points to *contype*.
 - contype* points to *hh100hh*.
- Contact** (bottom-right): Contains nodes *#cont*, *closecont*, *care*, *result*, and *contage*.
 - #cont* points to *closecont*.
 - closecont* points to *care*.
 - care* points to *result*.
 - contage* points to *result*.
- Unobserved Common Causes** (dashed lines):
 - A dashed line connects *# infected* to *closecont*.
 - A dashed line connects *infectivity* to *% infected*.
 - A dashed line connects *closecont* to *transmitted*.
 - A dashed line connects *closecont* to *hh100hh*.
 - A dashed line connects *closecont* to *contage*.

Fig. 2

The diagram illustrates the relationships between three entities: Person, Company, and Role. Each entity is represented by a box containing its name and a set of attributes (ovals). Arrows indicate dependencies between attributes across entities.

- Person Entity:** Attributes are *age*, *retired*, *salary*, and *top_role*.
- Company Entity:** Attributes are Δ total assets, # employees, Δ top assets, and Δ top assets.
- Role Entity:** Attributes are *retired*, *salary*, and *top_role*.

Dependencies (indicated by arrows):

- age* (Person) depends on *retired* (Person).
- Δ total assets (Company) depends on *retired* (Person).
- # employees (Company) depends on *retired* (Person).
- Δ top assets (Company) depends on *retired* (Person).
- Δ top assets (Company) depends on *salary* (Person).
- retired* (Person) depends on *retired* (Role).
- salary* (Person) depends on *salary* (Role).
- top_role* (Person) depends on *top_role* (Role).
- retired* (Role) depends on *retired* (Person).
- salary* (Role) depends on *salary* (Person).
- top_role* (Role) depends on *top_role* (Person).

Fig. 3

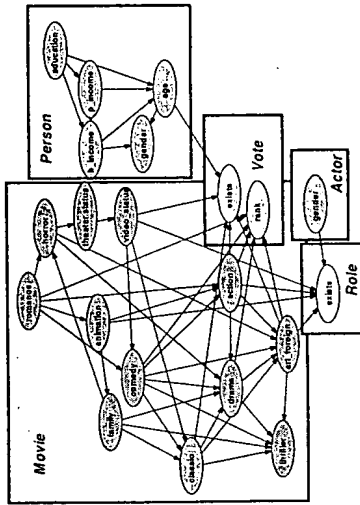


Fig 4

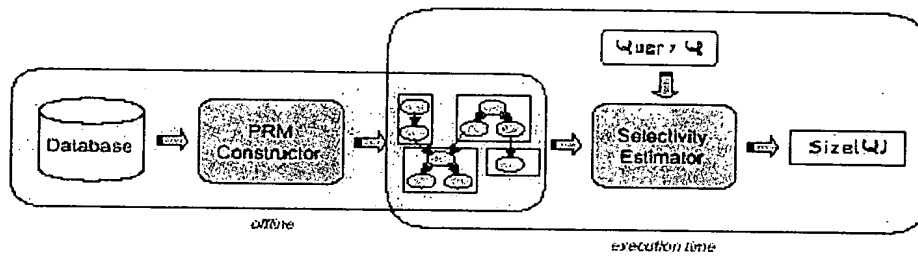


Figure 5

E	I	H	$P(E, I, H)$
h	l	f	0.27
h	l	t	0.03
h	m	f	0.105
h	m	t	0.045
h	h	f	0.005
h	h	t	0.045
c	l	f	0.135
c	l	t	0.015
c	m	f	0.063
c	m	t	0.027
c	h	f	0.006
c	h	t	0.054
a	l	f	0.018
a	l	t	0.002
a	m	f	0.042
a	m	t	0.018
a	h	f	0.012
a	h	t	0.108

Fig. 4(a)

E	$P(E)$
h	0.5
c	0.3
a	0.2

I	E	$P(I E)$
l	h	0.6
m	h	0.3
h	h	0.1
l	c	0.5
m	c	0.3
h	c	0.2
l	a	0.1
m	a	0.3
h	a	0.6

Fig. 4(b)

H	I	$P(H I)$
t	l	0.1
f	l	0.9
t	m	0.3
f	m	0.7
t	h	0.9
f	h	0.1

Fig. 4(c)

E	$P(E)$
h	0.5
c	0.3
a	0.2

I	$P(I)$
l	0.47
m	0.30
h	0.23

H	$P(H)$
t	0.344
f	0.656

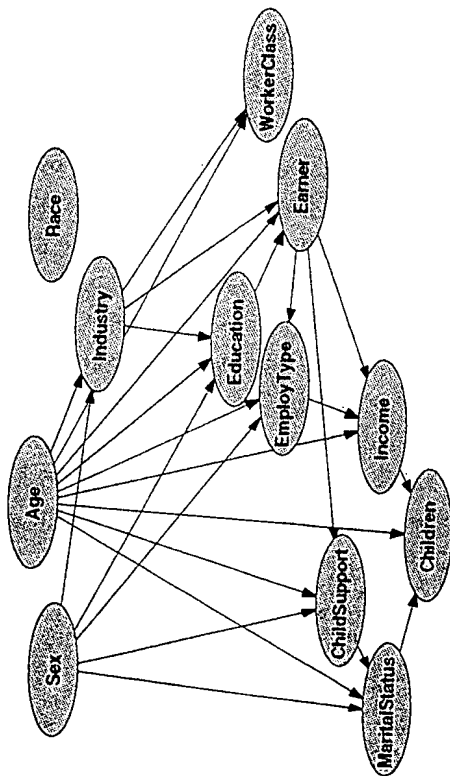


Fig. 7(a)

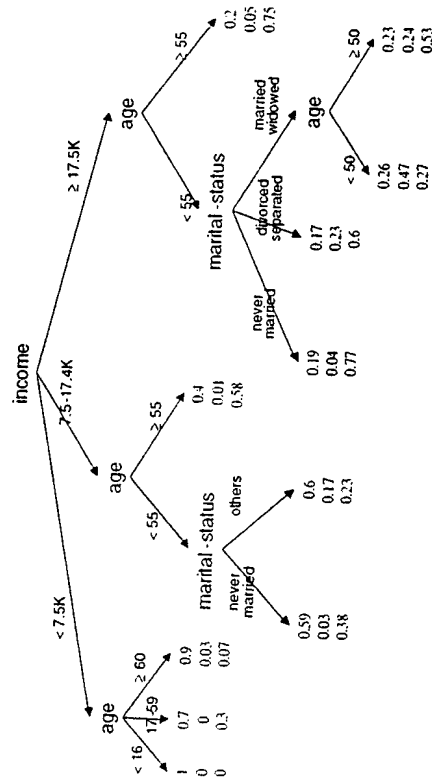


Fig. 7(b)

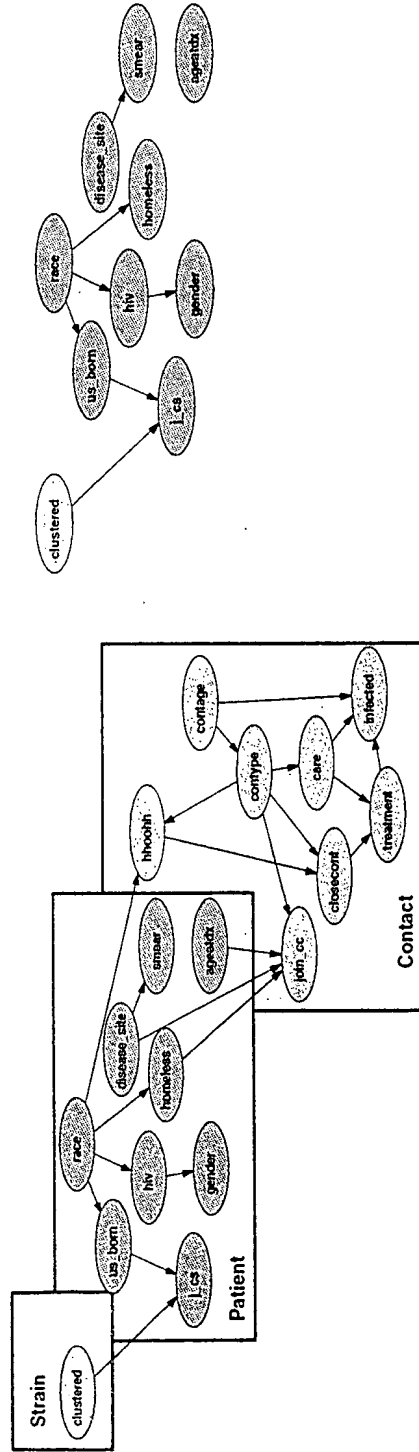


Fig. 8 (a)

Fig. 8 (b)

Figure 10 is a line graph showing the Average Relative Error (%) on the Y-axis (ranging from 0 to 1400) versus Storage Size (bytes) on the X-axis (ranging from 200 to 1200). Three methods are compared: MHIST (squares), SAMPLE (triangles), and PRM (diamonds). All methods show a significant decrease in error as storage size increases, with MHIST consistently having the highest error and PRM the lowest.

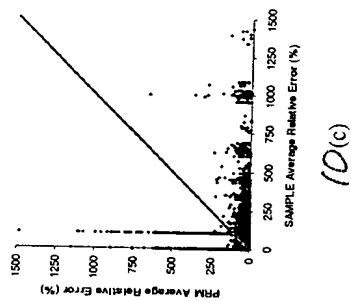
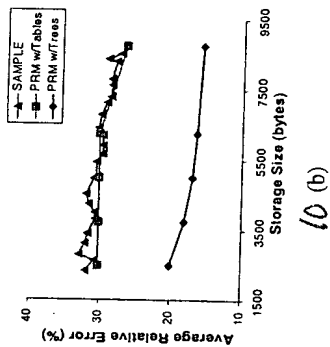
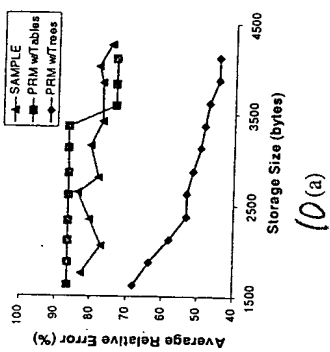
Storage Size (bytes)	MHIST (%)	SAMPLE (%)	PRM (%)
200	1250	100	550
400	380	100	180
600	250	100	100
800	200	100	50
1000	180	100	50

Figure 10 is a line graph showing the Average Relative Error (%) on the Y-axis (ranging from 0 to 600) versus Storage Size (bytes) on the X-axis (ranging from 500 to 3500). Three methods are compared: M4ST (squares), SAMPLE (triangles), and PRM (diamonds). M4ST shows a significant increase in error as storage size increases, while SAMPLE and PRM show a decrease in error as storage size increases.

Storage Size (bytes)	M4ST (%)	SAMPLE (%)	PRM (%)
500	450	100	80
1000	480	80	40
1500	500	80	80
2000	520	70	30
2500	530	60	30
3000	540	60	20
3500	540	60	20

Storage Size (bytes)	MHIST (%)	SAMPLE (%)	PRM (%)
500	55	25	25
1500	60	20	12
2500	61	20	10
3500	62	20	9
4500	62	20	9
5500	62	20	9

9(c)

[illegible]

102050-442250

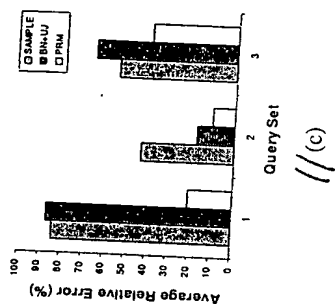
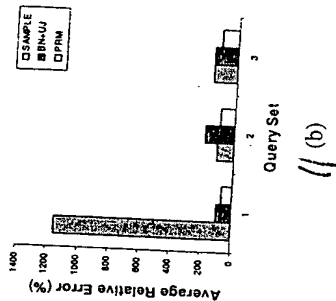
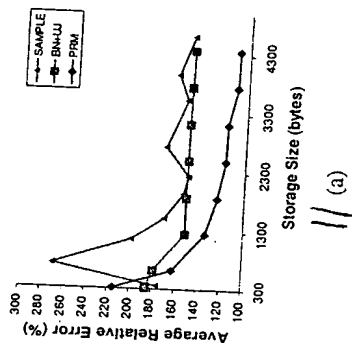


Figure 12(a) is a line graph comparing the running time of Tries and Tables as a function of storage size. The X-axis represents Storage Size (bytes) from 500 to 8500, and the Y-axis represents Running Time (secs) from 0 to 2500. The 'Tries' series shows a significant increase in running time with storage size, while the 'Tables' series remains relatively flat.

Storage Size (bytes)	Tries Running Time (secs)	Tables Running Time (secs)
500	~100	~100
1500	~150	~100
2500	~250	~100
3500	~350	~100
4500	~450	~100
5500	~550	~100
6500	~650	~100
7500	~750	~100
8500	~850	~100

